Alcoholism

Studies by a Special Committee of the California Medical Association

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A study of the problem in California with a view to making suggestions to the California Medical Association and its members in meeting the problem and aiding the addict.

To: *The Council of the California Medical Association:*

INTRODUCTION

THIS committee has been appointed by the President of the California Medical Association to collate information and basic data for consideration and evaluation in meeting the problem of alcoholism in California. The committee considers its object should include: (1) The provision of detailed information to the physician, designed to (a) acquaint him with the nature and extent of, and current practices in handling, the problem; and (b) influence his attitude in the care of alcoholic patients and toward his approach to the problem as a leading citizen of the community. (2) The provision of a statement of services, facilities and programs needed to attack the problem. Such a statement may serve as a guide to the California Medical Association in its official approach to the problem and as a guide to its members in their approach to the problem in their communities. (3) Recommendations for the implementation of the program.

This committee shall not engage in any activities designated to promote or prevent the sale or consumption of alcoholic beverages.

Aspects of the Problem

1. *Brief History of Alcohol Use:*

Strecker and Ebaugh state that the history of alcohol is coexistent with the history of the human race. Tablets of great antiquity indicate that the Egyptians and other ancient peoples enjoyed beer. Rome was drunk not only upon its military victories but also upon its wines. The barbarians from the North brewed a delectable beverage from cereals and honey called mead. The Caledonians produced Scotch whiskey. The North American Indian concocted a potent beverage from the gall of elk and buffalo which was exposed to the heat of the sun.

Any human habit which persists through the ages, surviving legislative and other efforts to eradicate it, must be motivated by a powerful driving force. The reason that the use of alcohol by man has persisted through the centuries is that it has the quality of blurring the hard, unpleasant and forbidding outlines of reality, and if taken in sufficient quantities, it has the power to efface reality. It is fantasy in a bottle. It is readily obtainable, produces its effects quickly, and for a long time its devotees escape social stigma. Alcohol is a tremendous economic, social, ethical and medical problem.

No country has, as yet, succeeded in working out a solution for alcoholism, despite many sincere and determined efforts. The Jews, living with all other racial groups, seem to be the only group that is almost free from pathologic alcoholism. Their close-knit family and social ties and their dietary restrictions perhaps partially account for this.

The trend of alcoholism is indicated by state hospital statistics of the past 40 years. Early in this century an active educational program disseminated information through newspapers, magazines and school textbooks, concerning the effects of alcohol on the human body and its functions, with some beneficial results. The incidence of alcoholic psychoses among first admissions to the New York State hospitals was reduced from 6.4 per 100,000 total population in 1910 to 1.2 per 100,000 of population in 1920 (the lowest figure on record for that state), during the application of "local option" which resulted in 40 per cent of the population living in "dry" territory.

National Prohibition was accompanied by a steady increase in the incidence of alcoholic psychoses until in 1932 the figure for New York reached 4.5 per 100,000 of total population. Repeal of the Eighteenth Amendment was followed by a further rise in the incidence of alcoholic psychoses, exceeding the rate of 30 years ago.

The Eighteenth Amendment was proposed December 18, 1917. On January 29, 1919, the United States Secretary of State proclaimed its adoption by 36 states and declared it in effect on January 16, 1920. The total vote in senates of the various states was 1,310 for, 237 against—84.6 per cent dry. In the lower houses of the states the vote was 3,782 for, 1,035 against—78.5 per cent dry. The amendment was adopted by all the states except Connecticut and Rhode Island.

Article Twenty-one (Repeal of the Eighteenth Amendment to the Constitution) was proposed in the Senate January 16, 1933, and in the House of Representatives February 20, 1933. It went into effect December 5, 1933, having been adopted by 38 of the 48 states.

2. *Brief Survey of the Industry:*

The Federal Trade Commission, in 1941, as part of its Industrial Corporation Reports, presented an analysis of financial operations of six of the "more important concerns" in the distilled liquor industry. Their total sales in 1939 were valued at $290,699,253; net income after taxes was $17,083,626; dividends paid totaled $1,126,333 on preferred shares of stock and $6,253,776 on common shares—equivalent to 4.9 per cent of the "equity value" of $150,646,987 of the six corporations. These six producers spent for advertising an amount equivalent to 4.8 per cent of sales, or $13,984,494.

The Federal Trade Commission also reported on 21 of the "more important" corporations manufacturing malt beverages—those having about 44.4 per cent of the total value of all products as given in the 1940 Census of Manufacturers for 1939. Their sales in 1939 amounted to $203,496,279; net income after taxes was $23,732,813; dividends paid were $1,069,821 on preferred shares, $12,011,120 on common, equivalent to 10.4 per cent of the equity value of $125,763,115. Expenditures for advertising totaled $14,157,477, equal to 6.94 per cent of total sales.

The Securities and Exchange Commission reported "data on profits and operations" of certain corporations whose stocks were listed on exchanges in 1940. For distillers, ten corporations were listed, having total sales of $349,965,000 in 1940; their net profits after taxes were $24,617,000, an amount equal to seven per cent of net worth.

The SEC reported in 1940 on five distillery corporations in the United States with assets of over $10,000,000 each on June 30, 1939. These owned the major portion of the total assets of the 15 corporations of this industry that had registered securities. The total value of the sales of these five corporations was $308,000,000 in the year ending in 1939. Their profits, after all charges, were $23,100,000, or 7.5 per cent of sales. They paid dividends of $12,800,000 in the year ending in 1939.

The SEC presented data for 27 breweries with listed stocks for 1940. Their total sales were $78,489,000; the net profits after taxes were $7,503,000, which was equal to 9.6 per cent of sales and 11.8 per cent of net worth.

As to distribution, the most recent figures are for 1939, appearing in the 1940 Census of Distribution. In that Census there were reported 135,594 "drinking places," that is, places primarily so operating, such as bars, beer gardens, cabarets, night clubs, saloons, tap-rooms, taverns. Their total sales were reported as $1,385,032,000 or 3.3 per cent of

all retail sales for all purposes reported in the Census. (Meals are also served at an undesignated portion of these "drinking places.") Their total payroll was $159,689,900 for 212,235 employees, and there were enumerated 136,217 "active proprietors of unincorporated businesses."

For retail liquor stores selling packaged goods, there were reported 19,136 outlets, with $586,351,000 in sales, 25,676 employees, and a payroll of $30,782,000. Their total sales were 1.4 per cent of all retail business reported in the nation for that year. Alcoholic beverages were also sold to some extent at establishments listed primarily as "eating places," which numbered 169,792; and at food stores, which totaled 560,549.

The most inclusive report of advertising expenditure was made for 1940 by the Bureau of Advertising of the American Newspaper Publishers' Association. The total spent by national advertisers in 1940 was $420,479,424. Expenditure for advertising alcoholic beverages was $19,533,136, being third on the list and exceeded only by automobile and grocery advertising.

Printers' Ink published an item in 1942 to the effect that the brewing industry alone had spent $170,000,000 for advertising since 1933. The estimated total expenditure for advertising in 1940 by the brewing industry was $21,058,000.

The United States Department of Commerce and Graphics Institute report spending habits in the United States in percentage of national income as follows: 4.90 per cent (8.8 billion) is spent on alcoholic beverages, 3.40 per cent (6 billion) for horse race betting, 1.90 per cent (3.4 billion) for tobacco and cigarettes, 0.85 per cent (1.5 billion) given to religious and social welfare, and 10.5 per cent (18.7 billion) for individual United States income taxes. The common estimate of expense for public education in the United States is given as 3.3 per cent—about two-thirds as much as is spent for alcoholic beverages.

In February, 1944, the Department of Commerce published estimates of the total value of alcoholic beverages purchased by people of the United States from 1934 to 1943. The amount estimated for 1940 was $3,595,000,000. For the 131,669,275 resident population of the United States in 1940 this equals $27 plus per capita. For 1934, $2,300,000,000 was spent, and for 1943, $6,830,000,000. The 1934-43 expenditures were equal to 4 to 5 per cent of total income of all the people. For approximately 44,000,000 users of alcoholic beverages the annual outlay averaged about $81 per person.

According to the 1939 United States survey, the manufacture of alcoholic beverages made use of about 3.2 per cent of the total volume of the corn, barley, rice and rye crops and about 60 per cent of the grapes grown commercially. The five branches of alcoholic beverage manufacture totaled 1,241 establishments with 76,585 employees, with a total payroll of $145,464,387. The total wholesale value of manufactured products was $722,561,399.

ALCOHOLIC BEVERAGE INDUSTRY IN CALIFORNIA

The figures in the following table provide an estimate of the dollar value of wholesale and retail distribution of alcoholic beverages in California for 1947 as provided by Arthur H. Samish and associates:

	Wholesale	Retail	Total
Number of premises	905	40,817	41,722
Number of employees	12,503	58,692	71,195
Excise, federal and state taxes, sales taxes and license fees			$227,541,601
Wages and salaries paid	$37,510,209	$176,075,935	213,586,144
Moneys paid to other industries	23,557,791	104,096,104	127,653,895
Total	$61,068,000	$280,172,039	$568,781,640
Capital investment	88,655,307	306,127,500	394,782,807

The Wine Institute has provided the following estimates of the economics of the wine industries of California:

Estimated investments in vineyards, wineries, real property and improvements	$500,000,000
Estimated employment in vineyards and wineries year around	61,000
Estimated total employment in vineyards and wineries at vintage season peak	111,000
Estimated total annual payroll for grape and wine production (year around and seasonal)	$157,000,000
Estimated state and county taxes collected from industry annually as direct taxes, exclusive of income taxes, sales taxes, etc.	2,000,000
Estimated amount of direct taxes collected annually on California wines by Federal Government	70,000,000
Estimated annual purchases of materials (not including grapes), supplies, equipment, services by California wineries and vineyards	75,000,000

These annual estimated purchases of supplies and services include the following:

Glass containers	$20,000,000
Closures	2,000,000
Labels and other printing and lithography	1,800,000
Winery equipment	5,000,000
Winery construction	5,000,000
Transportation	10,000,000
Advertising	10,000,000
Vineyard supplies	5,000,000

Arthur H. Samish and associates have provided the following additional estimates of distilleries and breweries, and of wineries, storerooms, etc., in California:

"There are only four small distilleries in the State of California which do little business and employ about 55 people.

"There are nineteen breweries in California. They employ around 5,000 and have a value in capital of around $100,000,000. California is eighth among state productions of beer, last year paying tax of $8.00 a barrel to the Federal Government and 62 cents a barrel to the state on 4,500,000 barrels of beer. In producing this amount of beer the breweries used $25,031,000 worth of agricultural products. The breweries spend several million dollars

annually in advertising. In addition they maintain huge fleets of trucks, are heavy users of transportation facilities, and market their supplies through about 40,000 retail outlets such as grocers, bars, hotels, restaurants and package liquor stores.

"There are 418 bonded wineries and storerooms, and estimated capital invested in vineyards, wineries and real property with improvements, equipment and inventories is $500,000,000; land planted to vineyards, 557,000 acres; annual grape production, 2,895,000 tons; annual farm value of grapes, $183,484,000; annual winery grape crush, 1,308,941 tons; annual gross wine production, 140,824,500 gallons; annual value of wine production, $144,469,000; winery storage capacity, 285,500,000 gallons; annual wine inventories, 184,996,000 gallons; annual winery value of wine inventories, $165,913,000; year-round employment in vineyards and wineries 60,000 persons; annual payroll of employees in vineyards and wineries, $125,000,000; annual taxes, $75,000,000."

It will be noted that these latter figures are closely in agreement with those provided by the Wine Institute.

These estimates indicate that the total capital investment in all phases of the alcoholic beverage industry in California probably exceeds a billion dollars. The total annual payroll approaches a half billion dollars, and taxes are well in excess of a quarter billion dollars. The industry is important in California.

3. *Economic Loss and Cost of Alcoholism:*

(a) Loss of wages, absenteeism: In 1940 loss of earnings by those who drink to excess in the United States was $1,500,000,000, or equal to $30 per person per year.

It is estimated that 70,000 men pass in and out of county and local jails in the United States each day. It is proper to assume a potential wage loss of $1,116 for each of these 70,000; that is, $78,120,000. The National Safety Council assigned $1,800,000 as the potential wage loss of persons involved in accidents due to inebriety; 6.6 per cent wage loss in this group equals $118,800,000. Inebriety was an important contributory factor leading to imprisonment in 19.6 per cent or 32,340 of the total of 165,000 Federal and state prisoners. Of prisoners released in 1940, 5 per cent were females. It may be estimated that 1,617 females had an average wage loss of $656 or $1,600,000, and 30,723 males an average wage loss of $1,116 or $34,288,000, a total of $35,348,000.

A study of absenteeism in three Connecticut cities in 1942 revealed that in one factory of 18,000 employees, 2.7 per cent lost time on one or more occasions because of acute alcoholic intoxication. In another establishment of 20,000 employees, 4 per cent lost time for this cause. At Yale Plan clinics it was found that inebriate factory workers lost an average of three work days per month or 36 days per year. The average of several surveys of 2,400,000 inebriates in 1940 indicated 624,000 were industrial workers. Applying the 36-day-per-year loss to the median annual earnings of $1,116, wage loss from alcoholism in 1940 can be estimated at $69,632,000. The total potential wage loss of the groups considered was $442,960,000.

According to the Yale Clinic Studies, expenditures due to inebriety in 1940 throughout the United States were $347,017,000 and potential wage loss $431,886,000, giving a grand total of $778,903,000.

(b) Cost of alcoholics' care in jails and hospitals: Of individuals hospitalized in the United States with mental illnesses of all types, 86 per cent were in state hospitals in 1940. Of those with alcoholic psychoses, however, only 72 per cent were cared for in state hospitals, 19 per cent in private hospitals, and the remaining 9 per cent in veterans', city and county hospitals.

Inebriate patients with psychosis in New York mental hospitals in 1940 numbered 4,845; without psychosis, 7,142. The estimated daily number of alcoholic patients in mental hospitals in the United States in 1940 with psychosis was 13,400, and without psychosis was 2,900. The per patient average cost in 1940 was $261.50 in state hospitals, in veterans', city and county hospitals $30 higher; and in private hospitals it was $30 to $100 per week, averaging $50 weekly or $2,600 yearly. The total cost in mental hospitals was $13,000,000 for an average daily number of 16,300 patients.

Statistics indicate inebriety to be a contributory factor in 18 per cent of all charity cases.

A report by R. S. Binay (Quarterly Study of Alcohol, 3:686-716, 1942), states that of 1,576 first admissions to Sing Sing in 1938-9, and of 1,539 in 1939-40, alcoholism was closely related to the commission of the crime in 22 per cent of the prisoners.

4. *Incidence of the Role of Alcoholism in:*

(a) Fatal and non-fatal automobile accidents in the United States, state, county and cities: No quantitative estimate of the role of alcohol in traffic accidents has been made, but guesses on the contribution of inebriety vary from 5 to 75 per cent. For 1940 the National Safety Council reported that the driver or pedestrian had been drinking in 20 per cent of fatal accidents.

Fifty-seven cities with over 10,000 population use alcohol tests in traffic accidents. A number of local surveys in 1937-8 showed 13 to 31 per cent of drivers involved in accidents had sufficiently high blood alcoholic concentrations to indicate that they were intoxicated. In 1940 the National Safety Council reported 850,000 non-fatal motor accidents with 1,200,000 injuries and 5,200,000 motor accidents with property damage. The Council reports "five to ten per cent" of all traffic accidents were due to alcohol.

The National Security Council estimated the cost

of *all* accidents in the United States for the year 1940 as follows:

	National Council Estimate (millions of dollars)	Estimate adjusted for Age (millions of dollars)
Medical expense	300	257
Overhead cost of insurance	300	294
Property damage (motor vehicles)	800	800
Wage loss	1,800	1,800
Total	3,200	3,151

The Annual Statistical Report for 1948 of the Department of California Highway Patrol, which does not include accident reports of cities, lists "had been drinking" (HBD) drivers and pedestrians involved in California fatal and injury motor vehicle accidents from 1936 to 1947 inclusive, as shown in Table A.

Arrests by the Department of California Highway Patrol for driving while intoxicated:

Year	Arrests	Year	Arrests
1936	4,974	1942	7,972
1937	5,413	1943	4,765
1938	6,718	1944	4,027
1939	6,058	1945	4,642
1940	7,346	1946	6,484
1941	8,870	1947	7,181

The rural accidents in the State of California involving drivers who had been drinking in 1947 totaled 4,772, of which 384 resulted in fatal and 4,388 in non-fatal injuries.

The District Attorney's office of Los Angeles County estimates there are 10,000 arrests per month of alcoholics and vagrants (who are usually released in a few hours) at a cost of $20 for each arrest. This cost of two and a half million dollars per year can be attributed directly to chronic alcoholism.

Jail bookings and sheriff's arrests in Los Angeles County for "Drunk, Drunk Driving, and Liquor Law Violations" as well as the total bookings and arrests for the fiscal years 1937-38 to 1947-48 are shown in Tables B and C.

The pronounced increase in jail bookings since 1944-45 is not due entirely to an increased number of persons being taken into custody. It is particularly due to a change in policy whereby the Los Angeles Police Department now books more of its prisoners in the county jail.

TABLE B.—*Los Angeles County Jail Bookings*

Year	Total Bookings	Drunk	Drunk Driving	Liquor Laws
1937-38	21,816	5,100	1,816	135
1938-39	21,153	4,807	2,055	137
1939-40	22,046	4,908	1,667	131
1940-41	23,261	5,303	2,113	70
1941-42	23,788	5,187	2,071	87
1942-43	19,993	4,283	1,433	68
1943-44	20,250	3,444	1,042	38
1944-45	21,537	4,379	1,114	34
1945-46	26,266	5,570	1,339	33
1946-47	36,393	8,175	2,016	106
1947-48	39,795	9,114	2,201	81

TABLE C.—*Arrests by Los Angeles County Sheriff's Office*

Year	Total Arrests	Drunk	Drunk Driving	Liquor Laws
1937-38	18,782	5,253	1,108	32
1938-39	18,426	4,835	1,167	45
1939-40	19,062	5,183	1,063	58
1940-41	21,201	5,405	1,109	17
1941-42	19,736	5,123	1,160	44
1942-43	18,529	4,725	1,056	71
1943-44	19,273	4,884	850	28
1944-45	20,431	4,861	869	18
1945-46	22,238	5,886	1,141	25
1946-47	28,878	7,901	1,501	114
1947-48	26,214	7,843	711	130

The Los Angeles City Police Department Annual Report for 1947 reveals:

1. Motor vehicle traffic injury accidents:
   Condition of driver:
   - Had been drinking 2,756
   - Physical defect 232
   - Asleep, fatigued, etc. 173
   - Other handicaps 140

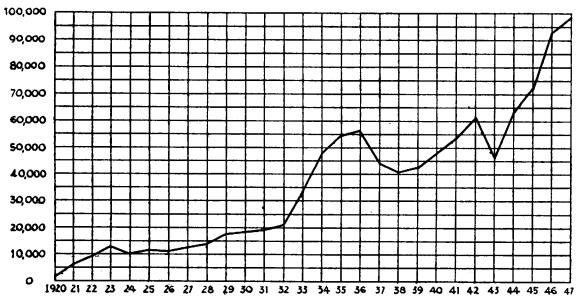
   Total 3,301
2. Total traffic violations numbered 10,610. Of this number 612 were under the influence of alcohol.
3. Accidents involving pedestrians:
   Condition of pedestrian:
   - Under influence of alcohol 116
   - Other had been drinking 381
   - Total drinking, and effects 638
4. Causes of street traffic accidents:
   - Drunk driving—felony 1
   - Drunk driving—misdemeanor 1,074
   - Total all causes 11,926

(Report continued on next page)

TABLE A.—*Showing Increasing Number of Accidents Involving Drivers Who Had Been Drinking*

Year	HBD Drivers: Total Accidents	HBD Drivers: Fatal Accidents	HBD Drivers: Injury Accidents	HBD Pedestrians: Total Accidents	HBD Pedestrians: Fatal Accidents	HBD Pedestrians: Injury Accidents	Total HBD Persons Involved in Accidents
1936	4,182	406	3,776	1,169	211	958	5,351
1937	4,438	422	4,016	1,246	217	1,029	5,684
1938	4,483	371	4,312	1,202	165	1,037	5,885
1939	5,070	403	4,667	1,218	191	1,027	6,288
1940	5,516	383	5,133	1,339	196	1,143	6,855
1941	6,789	447	6,342	1,679	235	1,444	8,468
1942	7,218	434	6,784	1,707	167	1,540	8,925
1943	6,551	423	6,128	2,101	239	1,862	8,652
1944	6,900	412	6,488	1,908	193	1,715	8,808
1945	9,082	601	9,481	2,349	249	2,100	11,431
1946	10,424	668	9,756	1,986	202	1,784	12,410
1947	10,612	607	10,005	1,719	173	1,546	12,331

5. Fatal motor vehicle accidents:
   Condition of pedestrian:
   Under influence of alcohol 4
   Other had been drinking 28
   Total 223
   Driver had been drinking 69
6. Arrests for intoxication:
   By calendar year Jan. 1920 to Dec. 1947:



7. Arrests bookings (traffic)—drunk driving, 17 of 61.
8. Arrest bookings (Municipal Code)—drunk, 6,823 of 7,732.
9. Arrests for drunkenness, 97,483 of 142,938 (all arrests).
10. Arrests for driving while intoxicated, 2,611 of 142,938 total arrests.

(b) Felonies, misdemeanors and asocial behavior: A Federal Bureau of Investigation study in 1940 of 1,212 cities with a population of 41,146,894, indicated that of all those arrested, 11.81 per cent were held for drunkenness, 3 per cent for disorderly conduct, 1.68 per cent for vagrancy and 0.76 per cent for driving while intoxicated.

In 1940, in 79 cities with a population of 13,493,387, 155,528 were found guilty of drunkenness, disorderly conduct and vagrancy, and 7,267 of driving while intoxicated. The investigators estimate that persons arrested for drunkenness cost 70 per cent of the amount spent for 3,000 county and local jails, which is equal to $25,550,000.

5. *Individual Effects:*

(a) Incidence of drinkers and addicts and development of alcoholic habits during adolescence: In 1940 about 2,400,000 excessive drinkers were reported in the United States, of whom 600,000 were chronic alcoholics. It is estimated that expenditures for disease were about 33 1/3 per cent higher in the alcoholic than the average of $23, or $30.70 per alcoholic. Thus, for 2,400,000 persons the increased cost due to alcoholism is $18,480,000.

There are 100,000,000 people in the United States of drinking age (over 15); of these 50,000,000 use alcoholic beverage. Of these, 3,000,000 become excessive drinkers and of this number 750,000 become chronic alcoholics. In other words, of 1,000 users, 60 become excessive and compulsive drinkers without chronic alcoholism and of these, 15 become chronic alcoholics with or without compulsive drinking. Hence inebriety is found in 6 per cent of the users (50,000,000) or 3,000,000. Of these, 2,600,000 are men, of whom 2,100,000 are between 30 and 60 years of age. The American Youth Commission Study of 1938 reported on 13,528 individuals between the ages of 16 and 24, of whom 52.9 per cent drank alcoholic beverages, 9.3 per cent were generally opposed to drinking liquor, and 27.8 per cent did not use liquor, but were not opposed to others' using it. In 1938 the Northwestern Life Insurance Company reported 40 per cent of men and 8 per cent of women among applicants under 30 admitted that they used alcoholic beverages.

(b) Deaths from alcoholism: In 1940 the Bureau of the Census reported 2,531 deaths as due to alcoholism; and alcoholism was given as the primary cause in 3,109 deaths. Of those whose death was due to alcoholism, 13.6 per cent were involved in fatal accidents. It is probable that at least 50 per cent of deaths from alcoholism are unreported as such, due to reluctance of physicians to certify alcohol as the cause of death. Moreover, in many cases cirrhosis of the liver and other fatal conditions largely attributed to alcoholism are not designated as due to alcoholism. Jellinek concluded in 1940 there were 15,250 deaths from alcohol and cirrhosis and that the fatal accidents in the chronic alcoholic population were estimated to be 2,074. The total inebriate population is four times the chronic alcoholic population. The fatal accidents among all inebriates numbered 8,296 in 1940, and 698,130 alcoholics were involved in non-fatal accidents. This made a total of 706,426 fatal and non-fatal accidents in the entire inebriate group, which is equal to 9 per cent of the total of 7,843,049 fatal and non-fatal accidents in the general population 15 years of age and over.

(c) Medical, physiologic and pathologic effects: Certain bodily diseases are more frequent in excessive drinkers, for example, vitamin deficiency and cirrhosis of the liver. Chronic alcoholics are more susceptible to polyneuropathy and pneumonia and are less liable to survive pneumonia. Twenty per cent of chronic alcoholics in hospitals complain of burning sensations in the feet and of pains in the legs—symptoms similar to those seen in dry beri beri. Pellagra is obvious in more than 10 per cent. A British insurance company study showed abstainers had a greater life expectance at every age level; the greatest difference, 3.9 years, was shown at the age of 25. After that it declined until at age 60, there was a difference of one year. About 10 per cent of alcoholics develop diseases of the mind from long heavy drinking. There are probably 5,000 to 6,000 instances of delirium tremens every year in the United States. Disorders of chronic alcoholism are essentially nutritional disturbances. Of all persons discharged from New York general hospitals in 1933, 2.7 per cent had received treatment for alcoholism.

The effect of alcohol on the body, apart from its action on the brain, can be divided into acute and chronic phases. The principal acute effect is on the stomach. This effect may be asymptomatic if the ingestion is slow. Mild stages of nausea may follow. The individual effect varies; some persons are stimulated to eat, while others lose all taste for food. It is in this latter group that nausea and vomiting usually develop. While a certain amount of the nausea

and vomiting that occur is due to the central effect, another factor is the irritation of the gastric mucosa. At times this irritation may be great enough to cause slight or even massive bleeding from the stomach. Diarrhea may follow. It is well known that many people with peptic ulcers have their first hemorrhage after the use of alcohol. We may summarize by saying that the acute effects of alcohol are disabling but are not often serious.

The chronic users of alcohol may develop some form of cirrhosis of the liver, various vitamin deficiencies, and increased liability to infection. There is a great deal of work to show that these chronic effects of alcohol are not due to the alcohol itself but are attendant upon the vitamin deficiency that ensues. This occurs through two mechanisms. First, those who drink a great deal usually are poor eaters, heavy smokers, and light sleepers. This means that their vitamin intake is reduced, and coupled with this they rarely eat fresh fruits or vegetables. In addition, alcohol requires considerable amounts of thiamine, riboflavin, and nicotinic acid in the process of being utilized by the body as a source of energy. The resulting vitamin deficiency makes itself known by the presence of sore tongue, cracking around the corners of the mouth, and dry, flaky skin. In the later stages there is a numbness and tingling of the feet and hands. Persons in advanced stages may become paralyzed. Long before actual cirrhosis sets in, the individual notices an increased number of colds and perhaps has had pneumonia a time or two. It is well known that alcoholics do not recover from pneumonia as rapidly as others despite the use of larger than average amounts of penicillin and sulfonamides. This lack of resistance to infections may be secondary to loss of immune bodies, which the ailing liver is no longer able to manufacture in adequate amounts to meet the body's need. With the onset of cirrhosis the patient is in a sad plight. The abdomen swells with fluid, while at the same time the extremities become wasted and weak. He gradually loses strength, and usually has to enter a hospital at intervals to have the fluid removed from the abdomen. Occasionally he vomits blood, this time because there are now large vessels in the stomach developing in an effort to get the blood past the diseased liver. He finally sinks into a coma and dies.

(d) Psychologic and psychiatric results: Alcohol is always a narcotic, and its reputation as a stimulant rests on the inhibitory release which it promotes. Parallels are found in symptoms due to disease of the frontal lobes of the brain, in the behavior which follows frontal lobe operations, and in the manic phase of manic-depressive psychosis. In these situations, as in alcoholism, there is loss of inhibition, abolition of self-critique, and in general, regressive behavior. At times, there is shedding of all adult responsibilities, so that the drunkard becomes as an infant with profound loss of control, even involving the functions of the bladder and bowels. The use of alcohol is the most common mechanism of escape from mature responsibilities.

A number of psychoses are influenced by alcohol, but chronic alcoholism is not a psychosis. Strecker and Ebaugh consider that chronic alcoholism is a psychoneurosis. It is preponderantly the psychoneurosis of the introvert—the shy, reserved, diffident individual who tends to be socially awkward and who acquires social facility only with the greatest difficulty. Alcohol is used to escape reality, just as psychoneurotic symptoms are employed unconsciously for the same purpose. Rationalization is common in both psychoneurosis and alcoholism.

The psychoneurotic person cannot meet the requirements of everyday reality because of headache, vertigo, nausea, vomiting, tachycardia, etc., which are derived from emotional conflicts and not produced by structural pathology. The pathologic drinker exhibits extreme rationalization in giving his "reasons" for his excessive drinking. He drinks because he has financial losses, because his health is poor, because his wife nags him, even because of unpleasant weather conditions. These rationalizations, like the symptoms of the psychoneuroses, become screens used unconsciously to prevent an honest facing of real basic issues.

The basis of alcoholism, as of psychoneurosis, is *emotional immaturity*, and as in the psychoneurosis the immaturity is rooted in childhood. Case records show a common situation in alcoholic patients during childhood. Parental dominance (usually "loving" dominance) prevented them from learning to make decisions; emotional growth lagged. When adult years were attained, the individuals were ill equipped for the give-and-take of personal social relationships. They became thwarted and frightened. Soon they discovered temporary confidence and security in alcohol.

Homosexuality probably plays only a small part in the cause of alcoholism; latent heterosexuality is more important. This is part of the emotional immaturity, allowing a "casual flitting about sexually," and constituting an evasion of the mature responsibilities of sex, home building and children.

Those who cannot face reality without alcohol; who take morning drinks and who drink alone; those who cannot control their excessive drinking, are chronic alcoholics. They cannot make adequate adjustment to reality as long as they use alcohol.

The following classification of alcoholism from Strecker and Ebaugh's "Clinical Psychiatry" divides the patients into etiologic groups:

1. Social drinking.

2. Reactive alcoholism: In those who drink in relation to or as an escape from some vocational, marital, economic or physical difficulties.

3. Symptomatic alcoholism: In which alcoholism exists as one manifestation of the behavior difficulties encountered by patients suffering from one of the psychoses.

4. Alcoholism in a psychoneurosis: Where the psychoneurosis seems to be the etiologic factor.

5. Alcoholism simplex or essential alcoholism: The group where no factors are found which can be reasonably labeled etiologic. Many patients classified as "psychopathic personalities" are included in this group.

This practical classification is further elaborated as follows:

1. *Social Drinking:* Under this heading may be included that wide and much discussed group ordinarily called "normal" or "social" drinkers. It may be presumed to include that group whose drinking varies from an annual Christmas eggnog to the daily before-dinner cocktail, and perhaps may include an occasional vacation spree. To be included in this group the person must in no way be dependent upon the toxic effect of alcohol. Many persons who consider themselves social drinkers probably border upon the situational group. In all instances they are able to indulge in or forego the pleasure of the alcohol, depending upon the proprieties of the occasion.

2. *Reactive Alcoholism:* Within this group fall that heterogeneous assortment of individuals who drink in relation to or as an escape from some environmental situation. Persons drinking in relation to vocational, marital, economic and physical difficulties not related to deep-seated personality problems may be properly included here. It is believed that a more thorough understanding of the alcoholic patient will result in a gradual absorption of this group into other headings of the classification.

3. *Symptomatic Alcoholism:* This is the phase of the problem in which the alcoholism exists as one manifestation of the behavior difficulties encountered by patients suffering from one of the major organic or functional psychoses. The alcoholism may temporarily color the general reaction, but careful study reveals the true situation and suggests the proper treatment.

4. *Alcoholism in Psychoneurosis:* In certain alcoholic patients psychoneurosis seems to be the etiologic factor. Certain of these persons use alcohol for a relief of the tensions and anxieties accompanying the disorder; and in other persons the alcoholism itself is the prominent manifestation of the neurotic mechanism. The analytic literature contains numerous examples of the latter kind of patients.

5. *Alcoholism Simplex or Essential Alcoholism:* Into this category are placed those patients in whom there can be found no factors which can reasonably be labeled etiologic. Such persons present a problem which is neither essential nor simple and the terms are used to mask our ignorance as to the true psychopathology of this state. Many persons who drink excessively and who may be classified as having "psychopathic personalities" are included in this category.

Alcoholic psychoses are commonly classified as: (a) Pathologic intoxication; (b) Delirium tremens; (c) Korsakoff's psychosis; (d) Acute hallucinosis; (e) Chronic hallucinosis; (f) Acute paranoid type; (g) Alcoholic deterioration.

Rosanoff delineates Miles' scale of toxic symptoms from alcohol as follows:

Alcohol in the Blood (Percentages)	Subjective States and Observable Changes in Behavior Under Conditions of Heavy Social Drinking
0.01	Clearing of the head. Freer breathing through nasal passages. Mild tingling of the mucous membrane of the mouth and throat.
0.02	Slight fullness and mild throbbing at back of head. Touch of dizziness. Sense of warmth and general physical well-being. Small bodily aches and fatigue relieved. Not fretful about the weather nor worried concerning personal appearance. Quite willing to talk with associates. Feeling tone of pleasantness.
0.03	Mild euphoria: "Everything is all right," "Very glad I came," "We will always be friends," "Sure, I will loan you some money," "It isn't time to go home yet." No sense of worry. Feelings of playing a very superior game. Time passes quickly.
0.04	Lots of energy for the things he wants to do. Talks much and rather loudly. Hands tremble slightly, reaching and other movements a bit clumsy; laughs loudly at minor jokes; unembarrassed by mishaps, "You don't think I'm drunk do you, why I haven't taken anything yet." Makes glib or flippant remarks. Memories appear rich and vivid.
0.05	Sitting on top of the world, "a free human being," normal inhibitions practically cut off, takes personal and social liberties of all sorts as impulse prompts. Is long-winded and enlarges on his past exploits. "Can lick anybody in the county," but has observable difficulty in lighting a match. Marked blunting of self-criticism.
0.07	Feeling of remoteness. Odd sensations on rubbing the hands together, or on touching the face. Rapid strong pulse and breathing. Amused at his own clumsiness or rather at what he takes to be the perversity of things about him. Asks others to do things for him. Upsets chair on rising.
0.1	Staggers very perceptibly. Talks to himself. Has difficulty in finding and putting on his overcoat. Fumbles long with the keys in unlocking and starting his car. Feels drowsy, sings loudly, complains that others don't keep on their side of the road.
0.2	Needs help to walk or to undress. Easily angered. Shouts, groans, and weeps by turns. Is nauseated and has poor control of urination. Cannot recall with whom he spent the evening.
0.3	In a stuporous condition, very heavy breathing, sleeping and vomiting by turns. No comprehension of language. Strikes wildly at the person who tries to aid him.
0.4	Deep anesthesia, which may be fatal.

Postmortem findings vary according to the stage of the disease at death, the severity and duration of the alcoholism, and the existence of complications, such as avitaminosis and circulatory disease.

The changes found in the central nervous system include pachymeningitis, hemorrhagica interna, cerebral atrophy, polioencephalitis hemorrhagica superior of Wernicke. Acute cerebral edema is found in those dying in an acute delirious state. Shrunken convolutions, moderate dilatation of the ventricles, and thickening and opacity of the pia-arachnoid may be noted.

Because of the popularity of social drinking alcoholism has never been defined exactly. A person may be considered to be alcoholic when he becomes dependent upon the toxic effects of the drug to carry out his work or to meet his social obligations. Alcoholism of itself is responsible for approximately 10 per cent of all mental disease and occurs as a symptom in many of the major psychotic reactions and in some of the psychoneurotic states. Even in moderate doses alcohol lessens motor activity, diminishes physical strength, lowers the fatigue point, interferes with clarity of ideation, impairs

capacity for judgment and mental work, and interferes with the sharpness of memory. Many individuals become quite unstable emotionally under the influence of alcohol. It acts as a direct poison to the cortical cells.

Treatment of the Problem and the Addict

1. *Legal Control of the Industry and Sale of the Product:*

All states and territories have constitutional provisions for the control of manufacture, sale and taxation of alcoholic beverages.

Traffic in alcoholic beverages in California is governed by the provisions of Section 22 of Article XX of the State Constitution, effective December 20, 1934; the Alcoholic Beverage Control Act, the Health and Safety Code, the Penal Code, and the Statutes of the United States.

The State Board of Equalization is charged with administration of the Alcoholic Beverage Control Act and issues licenses. Local officials and the board are charged with the duty of enforcing the law.

(1) The eighteenth article of amendment to the Constitution of the United States was repealed by United States Constitutional Amendment No. 21. (Eighteenth amendment effective May or June 1919; twenty-first amendment effective December 5, 1933.)

(2) The transportation or importation into any state, territory or possession of the United States for delivery or use therein of intoxicating liquors, in violation of the laws thereof, is prohibited.

The provision of the Alcoholic Beverage Control Act imposing a license fee of $500 for the privilege of importing beer within the state does not violate the federal Constitution.

Shipment through the state: The twenty-first amendment has no application to the transportation of liquor through a state; hence liquor purchased for shipment to Hawaii but temporarily stored in San Francisco warehouses is not subject to local property taxation.

California Constitution, Article XX, *State Control of Liquor Sales:*

The license fee required of bona fide hotels, restaurants, cafes, cafeterias, railroad dining or club cars, passenger ships and other public eating places, and any bona fide clubs, after such clubs have been lawfully operated for not less than a year, for the privilege of keeping, buying, selling or otherwise disposing of intoxicating liquors other than beers and wines, is $250 per year or $62.50 per quarter annum for seasonal business, subject to the power of the State Board of Equalization to change such fees.

Apportionment of fees and taxes: The Legislature provides for apportioning the amounts collected for license fees or occupation taxes between the State and the cities, counties and cities and counties of the state.

TYPES OF LICENSES; FEES

		Per Year
(1)	Beer manufacturer's license	$750.00
(2)	Wine grower's license (to be computed only on on the gallonage produced):	
	5,000 gal. or less	20.00
	Over 5,000 gal. to 20,000 gal.	40.00
	Over 20,000 gal. to 100;000 gal.	75.00
	Over 100,000 gal. to 200,000 gal.	100.00
(3)	Distilled spirits manufacturer's license	125.00
(4)	Still license (per still)	10.00
(11)	Beer bottling or packaging license	500.00
(12)	Distilled spirits wholesaler's license	250.00
(13)	Beer and wine wholesaler's license	50.00
(16)	Retail package off-sale general license for the first $10,000 retail sales of distilled spirits per year	110.00
	For each $1,000 or fraction thereof over $10,000 per year	10.00
(23)	On-sale general license	75.00
	Plus an amount in accordance with the following:	
	a. In cities of 40,000 population or over	450.00
	b. In cities of less than 40,000 but more than 20,000 population	300.00
	c. In all other localities	250.00
(25)	Wine rectifier's license	250.00

(For other fees and regulations see California Alcoholic Beverage Control Act 1947, page 20.)

Section 23—Tax on Beer and Wine: (a) On all beer 62 cents for every barrel containing 31 gallons and appropriate rate for any other quantity. (b) On all still wines containing not more than 14 per cent of absolute alcohol by volume, 1 cent per wine gallon and proportionate for other quantity. (c) On all still wines containing more than 14 per cent of absolute alcohol by volume, 2 cents per wine gallon and proportionate for other quantity. (d) On champagne, sparkling wine, 1½ cents on each bottle or other container for each half pint or fraction thereof contained therein. (e) Sparkling hard cider 2 cents per wine gallon and proportionate for other quantity.

Section 24—Tax on Distilled Spirits—of proof strength or less, 80 cents per wine gallon and proportionate for other quantity; distilled spirits in excess of proof strength are taxed double the above rate.

Section 37—Disposition of Funds Collected: All moneys collected as license fees and under the excise tax provisions of this act are deposited in the State Treasury to the credit of the Alcoholic Beverage Control Fund. Moneys are apportioned as follows:

(a) All moneys collected from fees are paid semi-annually to the counties, cities and counties, and cities of this state in the proportion that the amount of the fees collected in the particular county, city and county, or city bears to the total amount so collected throughout the state, and the State Controller, during the months of April and October of the year, draws his warrants upon the fund in favor of the treasurer of each county, city and county, and city for the amount to which each

is entitled; (b) Such amount as is necessary for the allowance of the refunds provided for in the act; (c) Any remaining balance is transferred to the general fund on the order of the Controller.

Section 61—Sales to Minors: (a) Every person who sells, furnishes, gives or causes to be sold, furnished or given away any alcoholic beverage to any person under the age of 21 years is guilty of a misdemeanor. (This includes married women under 21.) (b) Any minor who purchases any alcoholic beverages or any minor who consumes any alcoholic beverage in any on-sale premises is guilty of a misdemeanor.

Section 61.2: For the purpose of preventing the violation of Section 61 of the act any licensee or his agent or employee may refuse to sell or serve alcoholic beverages to any person who is unable to produce adequate written evidence that he or she is over the age of 21 years.

Section 62—Sales to Habitual Drunkard: Every person who sells, furnishes, gives or causes to be sold, furnished or given away any alcoholic beverage to any habitual or common drunkard or to any obviously intoxicated person is guilty of a misdemeanor.

From Alcoholic Beverage Control Bulletin, State Department of Equalization, Legal Control Division (four issues of 1948, April, May, June and July):

Revenue Data

Alcoholic beverage license fees collected in:

March 1948	$ 165,935.74
April 1948	517,464.53
May 1948	134,291.74
June 1948	1,220,286.31
Total fees 1948 to date	3,939,735.66
Total fees collected 1947	8,417,280.50
Total fees 1943-46	78,148,746.65
Total fees collected	90,505,762.81
Less refunds to date	1,247,534.36
Net revenue to June 30, 1948	89,258,228.45

Alcoholic Beverage Licenses Issued

March 1948	3,499
April	2,039
May	1,564
June	1,505

Total issued to June 30, 1948: 58,080.

Alcoholic Beverage Tax Summary

Distilled spirits excise tax:

February 1947	$ 1,051,757.24
February 1948	904,931.07
March 1947	1,029,560.93
March 1948	1,133,876.77
April 1947	938,402.04
April 1948	1,107,038.17
May 1947	954,263.34
May 1948	959,722.01
Total tax Jan. 1 to May 31, 1948	5,008,136.37
Total tax July 1 to Dec. 31, 1947	143,137,177.18
Total tax to date	148,148,313.55
Less refunds	100,092.17
Net tax July 1, 1935, to May 31, 1948	148,045,221.38

(Tax summary continued at top of adjoining column)

Beer and wine excise tax:

February 1947	$ 219,625.21
February 1948	237,105.14
March 1947	291,744.37
March 1948	296,981.93
April 1947	338,147.95
April 1948	299,698.91
May 1947	251,856.49
May 1948	280,159.96
Total tax Jan. 1 to May 31, 1948	1,388,484.04
Total tax April 4, 1933 to Dec. 31, 1947	35,179,225.16
Total tax to date	36,567,709.20
Less refunds	56,696.79
Net tax April 4, 1933 to May 31, 1948	36,511,012.41
Total alcoholic beverage excise tax to date	$184,556,233.79

Beer and Wine Distribution

Beer sales in gallons:

February 1948	11,466,535.73
March 1948	13,669,330.13
April 1948	13,961,450.66
May 1948	13,261,763.45

Still wine under 14 per cent in gallons:

February 1948	1,476,229.26
March 1948	1,734,232.71
April 1948	1,666,915.88
May 1948	1,663,713.91

Still wine over 14 per cent, sales in gallons:

February 1948	7,031,743.57
March 1948	8,106,635.44
April 1948	7,825,586.96
May 1948	6,218,519.12

Sparkling wine sales in half pints:

February 1948	539,371
March 1948	477,086
April 1948	537,066
May 1948	593,634

The *Alcoholic Beverage Control Bulletin* further details the beer shipments into California by out-of-state breweries (in gallons); the sales by California breweries in gallons; the sales by California beer importers in the southern district; a summary of beer and distilled spirits gallonage shipped from California to other states and countries; distilled spirits excise tax payments of over $1,000; distilled spirits excise payments by administrative districts; wine taxes of over $100 paid by California wine growers; board orders denying, suspending and revoking alcoholic beverage licenses, with the reasons for such; protests sustained; and the legal seizure reported under the provisions of the Alcoholic Beverage Control Act by months.

Allocation to cities and counties of their share of license fees collected from July 1, 1947, to December 31, 1947:

The total amount of net fees distributed was $1,882,454. Examples of allocation of this distribution are as follows:

Berkeley (city)	$ 10,693
Alameda (county)	123,845
Fresno (city)	22,916
Fresno (county)	46,911
Bakersfield (city)	11,938
Long Beach (city)	39,687
Los Angeles (city)	255,995
Los Angeles (county)	584,861

Unincorporated areas of Los Angeles County	63,688
Pasadena (city)	13,721
Santa Monica (city)	15,149
Corona (city)	1,050
Sacramento (city)	45,507
San Francisco (city and county)	308,149
Santa Barbara (city)	10,200

Public Revenues and Their Uses (1911-1947): Federal revenue from alcoholic beverages each year has amounted to over one-third of the total receipts of taxes levied by the national government.

The Tax Institute of the University of Pennsylvania data on the public revenues from alcoholic beverages in 1940 are: Total federal tax receipts in 1940 were $4,860,524,000, of which $624,253,000 came from alcoholic beverages. Added to this is $32,340,000 for customs receipts from alcoholic beverages. The total state tax revenues were $3,267,165,886, of which $243,776,068 came from alcoholic beverages. To this must be added the net profits in the "monopoly states," amounting to $66,057,520. The revenues from alcoholic beverages collected by local governments were estimated by the Tax Institute at $3,500,000 out of total local receipts of $4,745,000,000. Thus, the revenues from alcoholic beverages totaled $969,926,588 of total public revenues of $12,872,689,886 (not including payroll taxes). This is almost 8 per cent of all tax revenue. The Distilled Spirits Institute publishes a somewhat higher figure of $1,140,110,006.

No information is available regarding the use of federal alcohol tax receipts. It is general practice to retain local receipts from licenses for the general purposes of local government. The state revenues ($243,776,068 in license states and net profits of $66,057,520 in monopoly states) are in many instances designated for specific purposes. Thus in Alabama 10 per cent of state beer taxes is allotted to state welfare funds and 10 per cent to the public welfare funds of 67 counties. In Colorado—of state license fees and excise taxes, 5 per cent for administration and 85 per cent of the remainder to the old age pension fund. Florida—of the state license fees and excise taxes, 7 per cent for administration, $3,400,000 of the remainder to old age assistance, the next $400,000 to crippled and disadvantaged children, and the balance to general fund for distribution to public schools. Georgia—all license fees and excise tax go to common schools. Indiana—of retail profit fees, one-third to tuition funds of the school taxing units of the state. Louisiana—portion of spirits and wine license fees must be used exclusively for homestead tax exemptions. Beer license fees and excise taxes apportioned to public schools and conditionally to various charitable institutions. Missouri—proceeds from seizures and confiscations to county treasuries for benefit of schools. Montana—of state monopoly proceeds, 5 per cent to teachers' retirement fund and up to $5,000 to the Temperance Commission Fund. Of state license fees—50 per cent to public school fund and portion of the remainder to public welfare fund. New Mexico—largely all state revenues to social security, aid to dependent children, needy blind, and for emergency school fund. Ohio—most of sales tax on beer to poor relief and workmen's compensation fund. Oklahoma—most of state license fees and excise taxes distributed to county school districts. South Dakota—about one-half of receipts from beer and wine licenses, fees and excise taxes to counties for relief and hospitalization and indigent. Texas—state license fees to the old age assistance fund; of the state excise taxes one-fourth to state school funds, three-fourths to old age assistance. Washington—over one-half of state sales tax receipts to state current school fund. West Virginia—sales tax receipts to school funds. Wisconsin—portion of state excise taxes on spirits and wine to state aid of public schools.

There is a general tendency in the states to use portions of the public revenues from alcoholic beverages for educational and social purposes. We have no information of any state's designating revenue for the treatment of the alcoholic patient. A few states may use these funds for mental illness.

Summary and Conclusions: A probable minimal expenditure of $778,903,000 due to the antisocial behavior of inebriates and of conditions due to inebriety has been calculated for the year of 1940. This total might have been higher if more information had been available. It has also been found that the heavily taxed alcoholic beverage industry produced revenues of $969,926,588 for public treasuries in 1940. In 1943 revenues from this source amounted to $1,423,647,000. None of this money was designated for discovery of ways and means of preventing inebriety or for reducing the costs that result from the behavior of those who drink to excess. In 1945 Massachusetts, Connecticut, New Jersey and Indiana proposed plans to allocate a part of the revenues from alcoholic beverages for the treatment of alcoholics and for research on alcoholism.

The New Jersey State Legislature in 1947 enacted a law placing the treatment of alcoholics under the supervision of the State Department of Health, with provisions for their hospitalization and for research on the problem. The costs were to be borne by the state from allocated funds.

Thus, except for the recent efforts of these states, the total effect of the policies is that the state and the public have a socially irresponsible attitude towards alcoholism.

The Department of Finance, State of California, in reply to our request for information concerning the usage and application of liquor license fees distributed to local governments, answered as follows:

"The state law governing distribution of liquor license fees does not specify the fund in which local governments shall deposit such apportionments or the purposes for which the money may be spent beyond the general requirement that state funds are to be expended for a state purpose.

"Since counties are legally subdivisions of the state, the obligation to spend funds for 'a state pur-

pose' is not restrictive. We are informed that liquor license fees received by counties are deposited in the general funds of the several corporations, and the general restriction requiring expenditure for state purpose presumes that such receipts will be spent for liquor enforcement, police protection, traffic control, lighting, etc. We are told that cities, too, deposit their liquor license fee receipts in their general funds.

"The League of California Cities has been studying the problem of state restrictions over subventions to municipal governments and, no doubt, can give you additional information regarding the allocation and use of liquor license fee receipts."

The Department of Finance also sent our request for information to the League of California Cities, which answered through its legal counsel to the effect that, "Liquor license fees paid to cities under the provisions of Section 37 of the A.B.C. Act must, according to the Attorney General's Opinions NS 505, 505a and 505b, be expended by cities for a 'state purpose.' The courts are reluctant to define 'state purpose' and do so only in each case presented to them rather than by stating a broad definition which could be used to determine whether a given purpose was a state purpose under any circumstances. Generally speaking, education, schools, libraries, matters relating to health and sanitation, flood control, law enforcement, traffic regulation and enforcement of the A.B.C. Act itself are probably 'state purposes.'

"Although it is true to a large extent that the counties spend most of their funds as agents of the state, it is also true that they perform some purely local services in the unincorporated areas of the county. However, in the main, the counties are merely agents of the state, performing state functions. To this extent it is, of course, improper to speak of the state budget as being in part for state expenditures and in part for subventions to local government. It hardly seems proper to call an action a subvention when the agent is merely acting on behalf of the principal."

2. *Attitudes of Judicial Agencies:*

The reported attitude of the Los Angeles courts which handle psychiatric cases is that there is no tendency to order treatment for alcoholics unless they are psychotic. They seem to act on the premise that anyone should have sufficient concern to cooperate in the treatment of his diseases and should not be forced to accept undesired treatment. There appears to be no consistent policy on the part of the courts in cases involving alcoholism, unless psychosis be present. There is need for evaluation of this situation in order that the medical aspects may receive fuller consideration.

3. *Medical Aspects—Treatment of the Acute Alcoholic and Chronic Drinker:*

The medical treatment of the acute alcoholic may require astute judgment. As thorough physical and neurologic examinations as are possible need to be accomplished initially, despite the usual hyperactivity and resistance of the patient. It must be recognized that alcohol is a physiologic depressant, and further unnecessary sedation should be avoided. Frequently the patient is noisy and restless, and it may be obligatory to use some sedation. The less used, the less interference with therapy.

Increasing doses of strychnine sulfate every three hours for 36 to 72 hours have been utilized in the past. Still better treatment, however, approaches the toxic condition from a physiologic viewpoint and uses drugs which tend to counteract the depressant effects of alcohol and replace lost food elements.

The usual practice in the treatment of acute alcoholic patients admitted upon a neurologic service at Los Angeles County General Hospital through the past years has included high dosage of thiamine chloride in 10 per cent glucose and normal saline solution administered intravenously. Another method is the use of 10 cc. of metrazol and 100,000 units of thiamine chloride in 1,000 cc. of 10 per cent glucose in normal saline; 25 units of insulin is meanwhile injected intramuscularly. This amount of metrazol, slowly administered in the intravenous drip injection, has not provoked convulsions. On the contrary, it has appeared to lessen the tendency to convulsions, and, in instances where convulsions had been occurring, they stopped. This same treatment may be repeated in four to six hours if indicated by persisting symptoms. A third injection may be given.

Another treatment widely used consists of the administration of 50 cc. of 50 per cent glucose solution containing 50,000 to 100,000 units of vitamin B, accompanied by intramuscular injection of 25 units of insulin. This method, however, without the stimulating metrazol, allows convulsions to occur and makes hypoglycemia possible. Obviously, further glucose solution must be given when indicated.

Seliger of Baltimore offers a preliminary report on extramural treatment of severe delirium tremens in the August 1948 issue of the *American Journal of Psychiatry*. He suggests that it is necessary to develop an extramural technique for treating patients with acute alcoholism because of the shortage of hospital beds and the high cost of hospitalization.

A method which he has used successfully includes the initial use of 1 to 2 gr. of phenobarbital and 3 gr. of sodium dilantin as an anticonvulsant which follows a short physical and neurologic examination. An intravenous injection of 1,000 to 2,000 cc. of 10 per cent dextrose in normal salt solution is then administered. Thiamine chloride, 100,000 to 200,000 units, and 25 units of insulin are introduced into the tubing. Phenobarbital, 1 to 2 gr., and dilantin, 3 gr., are repeated in one and one-half hours after that. No alcohol is given, and candy and heavily sugared orange juice should be available should mild reactions occur. Seliger concludes that this treatment will clear up uncomplicated cases of delirium tremens in individuals under 55 years of

age in about ten hours. In some instances it may be wise to administer another 1,000 cc. of the intravenous glucose with insulin and thiamine on the following day, and for several days the patient should be kept on phenobarbital, 1 gr., and sodium dilantin, 3 gr., thrice daily, together with 50,000 to 100,000 units of thiamine intramuscularly.

Another form of treatment in the rehabilitation of the alcoholic is the so-called conditioned reflex treatment as applied by Voegtlin and Le Mere. This consists in inducing emesis with the injection of emetine hydrochloride which the patient thinks is an injection of a vitamin or some other medication. When the patient begins to show the vasomotor evidences of nausea he is given a large dose of liquor in an appropriate situation, including his choice of common brands of whiskeys, accompanied by other forms of positive suggestion in the conversation. The emesis is usually interpreted by the patient as being induced by the whiskey. This procedure is repeated according to routine and soon the patient experiences nausea upon seeing or smelling alcoholic beverages. The authors indicate success in about three-fourths of their alcoholic patients thus treated. It seems obligatory to give psychotherapy following this aversion type of treatment.

Meanwhile, during treatment of the acute condition, careful examinations are repeated and laboratory tests accomplished. Pulmonary congestion, pneumonitis or frank pneumonia may be present. Liver disease is common in these patients. They may have a full bladder which they are unable to empty, and various types of heart disease may be present. Neurological examination may suggest the presence of subdural hematoma or subarachnoid or intraventricular hemorrhage. Lumbar puncture and examination of the spinal fluid may assist in this determination. Should neurologic symptoms with varying depths of coma persist or recur, subdural hematoma may indeed be present.

The physical examination should meanwhile determine the presence and extent of any bony or soft tissue damage which may have been incidentally incurred during the irresponsible state induced by alcohol. Roentgenologic studies, particularly of the skull, should be accomplished, even upon slight suspicion.

Following control of the more acute symptoms, intensive vitamin therapy will be needed for days. Nutrition should be high in calories and protein content. Sedation is to be avoided, although it is recognized that hyperactivity, restlessness, noisiness and insomnia need to be controlled. During this less acute state, the effects of mild sedation are not as deleterious as in the depressed state of acute alcoholism.

Investigation of the personal history and character structure should be begun as soon as the patient is sufficiently lucid. During this period he is usually morose and acutely cognizant of the serious effects of his recent debauch. He is more receptive and responsive to direct suggestions, directions and assistance in future planning. This psychotherapy should be continued. If private care can be arranged, it is highly desirable to place the patient in a sanitarium where alcoholic abstinence can be enforced. Rarely is this possible in the patient's own home, even when ample nursing care and supervision are available. Meanwhile, every effort is made to assist the patient in readjusting to his problems without the use of alcohol. This is done by directing his interests to productive activities and sublimation of his emotional stresses.

4. *Public Health Aspects:*

The preceding discussion has indicated the general scope of alcoholism as a medical and public health problem. What little is being done currently to apply corrective medical measures is directed at the far end of the process, namely, after alcoholism is well established. From a public health standpoint in this, as in other problems of disease prevention, the point of attack should be at the cause, or at least at the beginning of the process.

As in the control of such chronic infectious diseases as tuberculosis and syphilis, treatment of the person who actually has the disease is imperative. Frequently, however, even arrest of further progress of the disease is not possible. If arrest of the disease is accomplished, as in tabes dorsalis, restoration to normal health may not be possible. The same principle applies in alcoholism as in tuberculosis and syphilis. The key to solution of the problem is prevention.

A carefully planned, broad, and continuous public educational program is of basic importance. It is recognized that education alone will not suffice; cases will develop in spite of such efforts. The educational program, therefore, needs to be supplemented by organized state and community effort to detect cases in incipient stages and to provide individual care. Such a plan follows public health and medical efforts to control tuberculosis and syphilis. The second line of defense becomes the recognition of the case of alcoholism at its inception. It may be anticipated that a significant proportion of alcoholics can be cured if the disease is attacked at its onset. A broad medical and public health community program will be necessary in order to attack the problem effectively along this second line of defense.

Even with these two lines of defense, a proportion of cases of alcoholism will go on to the advanced stage, just as some cases of tuberculosis and syphilis either are missed by the screening process or progress despite the application of all known medical knowledge. For such cases the third line of defense becomes the hospitals for long term permanent care. All these three lines of defense must be supplemented by extensive research into new and better methods of attacking the problem at all points.

In the administration of such a broad public health attack on the problem, almost every agency in the state and community is involved. Medical, educational, religious, social, law enforcement, and

judicial agencies all have parts to play. With so many actors on the stage, it will be necessary to devise some plan of organization for direction and coordination.

5. *Organizations Active in Meeting the Problem:*

Preliminary reports of the operations of the Yale Plan clinics, begun early in 1944, indicate that promising results in the treatment of alcoholics can be obtained by the expenditure of about $60 to $100 per person. There is a medical committee, appointed by the state medical society. The aim is to aid the alcoholic to find his way back to useful participation in the community. The extension of these methods of treatments (at about $100 per patient) to 600,000 alcoholics in the United States would cost $60,000,000, which is a relatively small portion of the public revenues received from the industry. Such expenditure for prevention and therapy would seem to be wise in the light of the social cost of about $1,000,000,000 paid annually by the people because of inebriety.

In California the Governor's Crime Commission is studying the problem and preparing to make recommendations at the next meeting of the State Legislature. It is recognized by the officials of this state that it is folly to continue large expenditures for law enforcement without properly directed efforts to control alcoholism.

The California Public Health Department is making studies from both medical and public health aspects.

The National Committee for Education on Alcoholism has a western branch in San Francisco. There is an East Bay Committee on Alcoholism attempting to promote interest in the problem, and a group with similar aims was organized in Los Angeles in the summer of 1948.

The San Francisco Committee for Education on Alcoholism has been active and offers counselling service both to alcoholic applicants and to others involved by their behavior.

A series of lectures and conferences are presented annually in Los Angeles under the auspices of the local mental hygiene group for dissemination of relevant information regarding alcoholism. Numerous lay groups throughout the state attempt the rehabilitation of the addict. These include many church and religious groups, the Salvation Army, the Women's Christian Temperance Union, and local option groups.

Considerable activity has been shown by Alcoholics Anonymous, which was organized in 1936, has had rapid growth and has offered help to thousands of chronic alcoholics. Their monthly publication, "Grapevine," is widely distributed and their frequent meetings in 1,200 localities are well attended by enthusiastic, earnest members. The "Twelve Steps" of their program for recovery are as follows:

1. We admitted we were powerless over alcohol—that our lives have become unmanageable.
2. Came to believe that a Power greater than ourselves could restore us to sanity.
3. Made a decision to turn our will and our lives over to the care of God *as we understood Him.*
4. Made a searching and fearless moral inventory of ourselves.
5. Admitted to God, to ourselves, and to another human being the exact nature of our wrongs.
6. Were entirely ready to have God remove all these defects of character.
7. Humbly asked Him to remove our shortcomings.
8. Made a list of all persons we had harmed, and became willing to make amends to them all.
9. Made direct amends to such people wherever possible, except when to do so would injure them or others.
10. Continued to take personal inventory and when we were wrong promptly admitted it.
11. Sought through prayer and meditation to improve our conscious contact with God as we understood Him, praying only for knowledge of His will for us and the power to carry that out.
12. Having had a spiritual experience as the result of these steps, we tried to carry this message to alcoholics, and to practice these principles in all our affairs.

Boiled down, these steps mean, simply: (a) Admission of alcoholism, (b) Personality analysis and catharsis, (c) Adjustment of personal relations, (d) Dependence upon some Higher Power, (e) Working with other alcoholics.

Recommendations

1. It is advised that the practicing physician give more time and attention to alcoholics among the families of his patients and those who may consult him about their problem and its treatment. A chronic alcoholic usually has some medical condition resulting from his habit and commonly some personality problem or disorder for which medical treatment is indicated. Alcoholism is as much of a medical problem as other diseases of personality involvement. The physician needs to accept alcoholics both as a personal and a professional challenge. Advice and information given by a doctor, early in the beginning of the alcoholic habit or during the period of social drinking, may prevent patient's physical, economic and social devastation. Young people need advice about alcoholic beverages, for it is found in many medical histories that the chronic drinker and addict began drinking excessively in early youth.

The false glamor and suggestion of enhanced social standing to be achieved by drinking alcohol needs to be dispelled. The family physician can influence excessive drinking habits among his patients and friends as well as in the community. Parents should be informed of the natural tendency of their children to imitate their own habits and customs, including their alcoholic habits. All should be persuaded to avoid excessive drinking. More influence should be brought to bear against driving an automobile after drinking.

Many of the physician's alcoholic patients may be referred to specialists for some psychiatric help —at least to the extent of a few psychotherapeutic sessions. It is hoped that psychotherapeutic clinics

may be developed which will make this approach and treatment more readily and widely available. Meanwhile, the family doctor will be first consulted and must be prepared to treat the individual and his problem.

2. It is strongly recommended that beds in county, municipal and private hospitals be made available for the treatment of acute alcoholics. It is suggested that the influence of medical and public opinion be utilized to implement such an allocation. A minimal bed requirement for such treatments should be two beds per 100 in hospitals of over 500 beds and at least six to eight beds in hospitals with 100 to 500 beds. Here the resident staff will be trained in treating this common disorder. Such a service, properly supervised, should meet with no objections from other patients or hospital personnel.

3. (a) It is recommended that diagnostic and rehabilitation centers be developed in the larger areas of population for brief hospitalization of patients in acute stages of alcoholism. During this period the patients may be screened and directed to agencies for further rehabilitation and supervision. This arrangement would utilize the existing agencies of the community and be directed by a central supervising group which would follow the individual patient, through vocational guidance or training to productive occupation. Meanwhile close liaison by an established group of the various religious, social welfare, hospital, court and police agencies would need to be developed.

(b) It is suggested that convalescent units be established for vocational rehabilitation. A number of attempts to organize facilities have been made by several law enforcement agencies with indifferent success.

(c) It is suggested that individuals apprehended for intoxication, repeated inebriety, vagrancy, etc., be interviewed by a psychiatric social worker, or by a psychiatrist, in order that suggestions may be made to the court or law enforcement agency as to the appropriate procedure. Frequently, even superficial investigation may screen out individuals who are psychotic, inadequate or inclined toward dangerous asocial activities. Further study of such individuals may determine the need for close supervision or treatment, while others may be expected to profit from enforced abstinence from alcohol in a restrictive environment. During this confinement the patient should further be evaluated during the rehabilitation program, which includes vocational training, educational and individual psychiatric supervision.

Such a program would require the advice and direction of a visiting psychiatrist, the assignment of psychiatric social workers and clinical psychologists.

Many of the individuals requiring such aid and supervision are homeless men who will require long-continued direction. Following the period of such a rehabilitation program, the patient should be directed to employment in a vocation for which he may be suited or trained. Alcoholics Anonymous has done much vocational placement work and, if properly subsidized, might be able to expand this function.

Such a plan has been in progress for some time at Castaic, California, under the supervision of the Sheriff's Office of Los Angeles County. A psychiatric social worker has been employed and arrangements for a full time psychologist are under way. Organized vocational training is in operation. This unit, however, has facilities for only 570 men who have been remanded there for numerous types of asocial activities besides alcoholism. The plan suggested for similar units would be restricted to individuals whose problem and whose apprehension were mainly due to their alcohol habit. New units should also be so developed and arranged that they may be properly equipped to accept individuals who have had no legal apprehension or who have committed no recognized misdemeanors. Such an arrangement should invite voluntary applications for treatment and rehabilitation.

Many alcoholics may be expected to benefit by psychotherapy in clinics where individual treatment and group therapy are available.

4. A broad educational program should be developed. This should include such fields of training as the following:

(a) Courses of *postgraduate training* for physicians and psychiatrists should be arranged for those actively engaged in this type of work. Symposiums and lecture courses should be established for the general practitioner of medicine and the Program Committee of the California Medical Association should influence the presentation of papers and discussions on this problem. All available means of disseminating knowledge regarding the alcoholic, his personality and treatment should be directed by the Council of the California Medical Association through editorials and articles in the official medical publications of the profession.

(b) Training programs should be developed for auxiliary personnel such as psychiatric nurses, psychiatric and medical social workers and for attendants in hospitals, rehabilitation farms and convalescent units. Both universities and hospitals should be utilized in such training.

(c) Furthermore, training in the form of evening classes and lectures and in-service instruction should be provided for law enforcement workers and jail attendants. This is desirable in order to develop proper attitudes toward the alcoholics who come under their supervision.

(d) Public education concerning the problem of alcoholism is obviously important. This will require dissemination of relevant information and knowledge through the public newspapers and magazines. More academic discussions could be appropriately presented to lay groups as copies of published articles, by continuing supervised lecture courses and by specific talks to groups. Moving picture films

could usefully be prepared and shown to lay groups, depicting the effects of chronic alcoholism on the individual, its great economic and social cost and its importance in accident and crime. There should be proper medical and psychiatric technical supervision of any commercial films in which alcoholism is involved.

The younger generation should be instructed in the devastations of this disease, as the large majority of addicts begin the habit during adolescence. Dissemination of this information should be aimed at the junor high school years. Such instruction can readily be included in physical education, elementary physiology, biology and sociology classes.

Even elementary instruction concerning the effects of alcohol will aid the individual and, taught in school during the early 'teen years, will make a strong impression. Some of this knowledge will be discussed in the homes, with added potential effect. It is not generally recognized, even by physicians, how widespread and costly the use of alcoholic beverages has become. It is the duty of educational authorities to instruct pupils on this common and practical subject.

Dissemination of information to the public will improve the generally disinterested attitude toward excessive alcoholic indulgence. When the victim happens to be a member of the family, excuses and alibis are freely available while, on the other hand, when evidence of alcoholic excesses appears in strangers, no sympathy and little attention is offered. Such an individual is usually considered beyond the pale and entirely ostracized.

5. An active research program should be developed on the various phases of the problem of alcoholism. Such studies should embrace investigations in biochemistry and physiology as well as studies in the sociology and statistics of alcoholism. Clinical research in the fields of the psychiatry of alcoholism and techniques of treatments of the acute and chronic alcoholic are also needed.

6. In order to organize, develop and operate such an all inclusive program, some agency will have to be given administrative responsibility. In view of the developing complexities of state and local government it is the recommendation of your committee that some pattern be sought that will for the most part utilize existing agencies. The following pattern of administration is suggested as a possible approach to the problem:

Establish a new Division of Alcoholism within the State Department of Mental Hygiene, this division to be the central planning and coordinating agency within the state. In order to insure wide representation in the approach to the problem and close integration with other agencies in state government which are involved in this field, it is recommended that an Advisory Council on Alcoholism be appointed by the Governor. Such council should include as ex officio members the directors of the Departments of Mental Hygiene, Correction, Youth Authority, Public Health and Social Welfare, together with at least five additional members from among candidates recommended by agencies involved. These are the California Medical Association, local law enforcement agencies, and hospital associations. Such an administrative plan would follow the general pattern developed within the State Department of Public Health for the administration of the Hospital Planning and Construction Program.

It is recommended that the Department of Mental Hygiene be authorized and funds be provided for the construction and operation of two hospitals attached to the two University of California medical schools, these hospitals to serve as research and clinical centers for the study and care of alcoholic patients. These centers could be operated by the Department of Mental Hygiene in close relationship with the teaching and research activities of the state medical schools.

It is recommended that, aside from these two clinical and research centers, local counties assume the responsibility of the development and operation of programs to care for alcoholics. A coordinating council at the county level comparable in representation to the State Council should be formed. Some local governmental agency should be authorized to be the administrative agency at the local level. It is imperative that the medical, law enforcement, social and judicial elements of the program be completely integrated at the local, as at the state level. In this manner the best knowledge, judgment and experience in all fields will be brought to bear upon the problem.

Adequate funds should be provided the State Division on Alcoholism to assist in the development of such local programs.

7. Financing the costs of the continued study of this problem would best be met by legislative allocation of a percentage of the excise taxes derived from the production and sale of the alcoholic products.

Statistical data have been offered to indicate the financial cost of excessive alcoholic indulgence, its influence upon accidents and the physical and mental effects on the individual. No one desires to see this continue. Even distillery advertisements recommend the use of alcohol in moderation. The fact remains, however, that among the large number of drinkers a predictable percentage inevitably become chronic alcoholics.

The cost of alcoholism, directly and indirectly, is a direct charge to the state and community. The actual amount spent for alcoholic beverages in the United States is more than 50 per cent in excess of that spent for public education. With such a large percentage of the population becoming diseased from the habit, public and administrative recognition must be stimulated. The wasteful expenditure of public funds in the apprehension and custodial care of alcoholic addicts, without a logical or systematic attempt to correct the situation, must be corrected.

The social waste from tuberculosis, venereal diseases, cancer and poliomyelitis has been recognized. More recently programs have been instituted for the study and dissemination of information regarding heart disease, diabetes, epilepsy and multiple sclerosis. But, no consistent organized program has been applied to alcoholism, which seriously affects a large segment of the population.

This problem of alcoholism must be met sooner or later. Four states have passed legislation designating funds for the study of this subject and treatment of the addict. The costs of administration would soon be offset by the savings in court, police and jail expenses.

8. *Conclusions:*

This report is presented as a preliminary consideration of the problem of alcoholism, with a view to appropriate recommendations to the Council of the California Medical Association.

Dissemination of knowledge concerning the subject to the membership of the California Medical Association is stressed. Through the influence of the physician, it is anticipated the public will develop proper attitudes toward alcohol, its use and abuse.

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